

Technical guide 3 (28 4 07)							
WARMAFLOOR				Tel 01489 581787			
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FLOOR INSULATION PROPERTIES							
FLOOR INSULATION MATERIAL	Expanded Polystyrene	Expanded Polystyrene	Expanded Polystyrene	Platinum Expanded Polystyrene	Extruded Polystyrene	Extruded Polystyrene	Polyurethane
GRADE	EPS 70 (SDN)	EPS 100 (HDN)	EPS 150 (EHDN)	EPS100	200	350	PUR
Trade Names	Jablite, Springvale etc	Jablite, Springvale etc	Jablite, Springvale etc	Jablite, Springvale etc	Styrofoam, Polyfoam etc,	Styrofoam, Polyfoam etc	Celotex, Kingspan, Ecotherm etc
ODP (Ozone depletion potential)	0	0	0	0	0	0	0
CFC Free	yes	yes	yes	yes	yes	yes	yes
Compressive Strength	70 kpa	100 kpa	150 kpa	100 kpa	200 kpa	350 kpa	150 kpa
Bending Strength	115 kpa	150 kpa	205	150 kpa	400 kpa	601 kpa	
THERMAL CONDUCTIVITY W/Mk	0.038	0.035	0.034	0.030	0.029	0.029	0.023
Resistance of floor insulation at different thicknesses (R values)							
(Thermal Resistance m²K/W)							
Thickness (mm)	R Value	R Value	R Value	R Value	R Value	R Value	R Value
20	0.526	0.571	0.588	0.667	0.690	0.690	0.870
25	0.658	0.714	0.735	0.833	0.862	0.862	1.087
30	0.789	0.857	0.882	1.000	1.034	1.034	1.304
35	0.921	1.000	1.029	1.167	1.207	1.207	1.522
40	1.053	1.143	1.176	1.333	1.379	1.379	1.739
45	1.184	1.286	1.324	1.500	1.552	1.552	1.957
50	1.316	1.429	1.471	1.667	1.724	1.724	2.174
60	1.579	1.714	1.765	2.000	2.069	2.069	2.609
65	1.711	1.857	1.912	2.167	2.241	2.241	2.826
70	1.842	2.000	2.059	2.333	2.414	2.414	3.043
75	1.974	2.143	2.206	2.500	2.586	2.586	3.261
80	2.105	2.286	2.353	2.667	2.759	2.759	3.478
90	2.368	2.571	2.647	3.000	3.103	3.103	3.913
100	2.632	2.857	2.941	3.333	3.448	3.448	4.348
110	2.895	3.143	3.235	3.667	3.793	3.793	4.783
120	3.158	3.429	3.529	4.000	4.138	4.138	5.217
Technical Terms							
Thermal Conductivity	Thermal conductivity is the rate of heat that flows through a 1 mtr depth of material of 1 sq mtr area at 1 degree K (Kelvin) difference in temperature. Different materials have different rates.						
Thermal resistance (R value)	Thermal resistance is the rate of heat flow through a material at a specific thickness						
U value	The U value is 1/R value The U value of any depth of insulation above is calculated as U =1/R Value Therefore 'U' value of 50 mm EPS70 (SDN) is 1/1.316 = 0.7598						
U' Value of a floor	The 'U' value of a floor is the combined sum of all the floor materials at there own thicknesses added together						